Transparency in Corporate Social Responsibility:

analysis of corporate-level disclosure in the food processing industry

by

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Biography and Acknowledgments

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Abstract

Multinational companies in the food processing industry has been a target of criticism in regards to their economic, social and environmental practices. Companies in this industry have achieve financial success and became some of the largest in the world, but have done so, in part, at the expense of the sustainability of the environment and societies impacted by them. Corporate social responsibility disclosure has quickly become a hallmark for companies that acknowledge their impact in the world and strive for the development of sustainable profitable businesses.

The purpose of this study is to analyse the extent of corporate-level social disclosure and provide some explanations for why potential differences exist between firms. With that goal in sight, the study sampled the reports of 36 of the largest companies and conducted an examination of the extent of the corporate social disclosure based on a scorecard and afterwards tested for statistical association between the final score each company received and the size of the company, position in the supply chain and the cultural environment of the firm's headquarters country.

The study proposes the use of Oxfam Behind the Brands scorecard in order to expand the corporate social responsibility assessment into specific matters impacting companies in the food processing industry and their supply chain, from corporate-level decision making to disclosure of partners and sustainable procurement. The main results point to a significant positive relationship between the extent of corporate-level social disclosure and the size of the company. The other variables were not significant. The study aims to contribute to the literature of corporate social disclosure by presenting a new measure for corporate social responsibility disclosure for the food processing industry and providing further investigation into established and new determinants for disclosure.

JEL Classification: M14

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Index

Index of tables and images

1. Introduction

Multinational companies in the food processing industry have been a target of criticism in regards to their economic, social and environmental practices (Hartmann, 2011). Numerous cases of violations of human rights, infringement on local populations rights and destruction of our natural environment have been reported in the news (Behind the Brands, 2014). Companies in this industry have achieve financial success and became some of the largest in the world, but have done so, in part, at the expense of the sustainability of the environment and societies impacted by them.

This issues relating to the economic activity of a company do not only significantly impact the organizations or it shareholders. It also significantly impacts other groups, from customers, employees and communities in which the company is located. However, in the past decades there has been a growing awareness of the role a company is expected to fulfil in our society. This new consciousness has arisen from all quadrants of our society. The demand for accountability in terms of social and environmental responsibility has increased steadily for the past decades (Gray *et al.*, 1995).

Corporate social disclosure refers to information provided by companies relating to their activities, aspirations, and public image with regard to environmental, community, employee, and consumer issues (Gray *et al.*, 1995). Corporate social responsibility disclosure has quickly become a hallmark for companies that acknowledge their impact in the world and strive for the development of sustainable profitable businesses.

Overall, transparency in CSR reporting is important for companies, regulators, governments, firms, and the public (Abernathy *et al.*, 2017). Companies are able to explain their actions and motivations in a clear and discernible way to all their stakeholders. Regulators and governments can have a sense of current and future impacts the companies' activities can have. And the public, all of us, can have the responsibility of rewarding those who work ethically and not reward those who disregard the basic elements of sustainability.

Research in the field of accounting, CSR and business ethics have devoted more and more studies to analysed the determinants for corporate social responsibility reporting (Gallego-Álvarez and Quina-Custodio, 2016). Some determinants have become well

established in the literature, although multiple theories claim to explain why each determinants impacts the corporate social disclosure of firms. The field proposes explanations in stakeholder theory, in legitimacy theory, in institutional theory and many other equally valid.

The purpose for this study is to analyse the extent of corporate-level social disclosure companies in the food processing industry provide. Also, the study proposes to provide some explanations for why potential differences exist between firms in the food processing industry. It will do so exploring well established variables but also in proposing new hypotheses, grounded in the literature.

After the introduction, the study is further divided into four parts. They are literature review, methodology of investigation, analysis and results and conclusions.

In the literature review, the theoretical framework of the matters been discussed in the dissertation are explained. First, the concept of corporate social responsibility is defined and general considerations on the literature are made. Then the theoretical frameworks regarding corporate social disclosure are presented, followed by its determinants and a description of the recent relevant studies in the literature. Finally, the hypothesis of this study are raised and their justification developed.

On chapter 3, the methodology of investigation is explained. The sample is defined, the scorecard described and the regression model and variables are detailed.

2. Literature Review

2.1. Concept of Corporate Social Responsibility

Corporate Social Responsibility (CSR) is defined as 'a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis' (European Commission, 2011), and can be summarised by having a two views associated with it: a narrow view and a broader view (Carroll *et al.*, 2010). The narrow view looks at CSR initiatives and the direct link with the financial performance of the firm, while the broader view complements the direct links with indirect links to financial performance. This development, noticed Fifka (2013), occurred in 1970s, first with the expansion of the reporting to more social issues as well as the development of stand-alone reports focused on CSR disclosure. Wood (2010) performed a literature review and found that the relationship between corporate social performance and financial performance of the company is reasonably well established and is a positive one, resulting in a better bottom line for the firm. This conclusion is also reached by Carroll *et al.* (2010) and enables companies and their stakeholders to look at CSR engagement as a long term economical viable strategy.

Non-financial performance indicators are however very broad in CSR research. Environment is generally the most addressed issue nowadays (se, for example, Bowrin, 2013, Brammer and Pavelin, 2006, Comyns, 2016, Cormier *et al.*, 2005, Hooks and Van Staden, 2011) although in the past social issues dominated the research (Fifka, 2013). Moreover, societal and environmental concerns can sometimes overlap each other, such as in a case of companies' environmental impacts leaving lasting effects on the communities affects by the activities. There are also novel issues that are currently overlooked in the literature, as per example the work environment of employees, as studied by Searcy *et al.* (2016).

CSR definition is also not consistent across countries. Dahlsrud (2008) concludes that corporate social responsibility is a socially constructed concept that is dependent on the context, a finding echoed by Freeman and Hasnaoui (2011) in their analysis comparing four nations. Some definitions encompass the triple bottom line and its dimensions, others

don’t, some cement into a firm’s goals the economic wellbeing of the organization, other definitions expand to include the shareholders and, even further, the stakeholders. Accounting for this information, it is logical to infer that different concepts of corporate of social responsibility will influence the way companies and management see their role and need to commit to CSR practices. Hofstede *et al.* (2010) contributed to this analysis by providing a cultural explanation for these differences in concept.

CSR research primarily focused its attention on large companies (namely multinational food processing industry or brand-recognized companies) since they are considered key players in their supply chain (Hartmann, 2011). Hartmann (2011) explained that this visibility created an increasingly level of public scrutiny that pushed the firms into, not only to monitor and readjust their own corporate social performance, but also monitor their performance in the supply chain they operate in. However, according to Luhmann and Theuvsen, (2016) companies in the agriculture business, in the beginning of the food supply chain, haven’t been very scrutinized by external stakeholders such as consumers, although recently the situation has been changing and a more critical environment has been set. This can be interpreted as a sign of diverging levels of pressure that companies have in a supply chain, such as the food industry supply chain.

2.2. Corporate social responsibility disclosure: theory development

Corporate social disclosure literature may be viewed as a subset of corporate financial disclosure literature (Van der Laan Smith *et al.*, 2005). Several perspectives exist that mediate the interaction between the company and the society as a whole. According to Mellahi *et al.* (2016) and Frynas and Yamahaki (2016), CSR disclosure research is dominated by theories related to external drivers of CSR: particularly stakeholder and institutional theory. For all the theories considered in the literature, namely stakeholder, institutional and legitimacy theories, the concept of societal legitimacy is important (Frynas and Yamahaki, 2016). Above all, the emphasis of the theories is in how external actors to the organization influence its managerial practices. Several motivations are therefore ascribed to companies when they engage on corporate social and environmental disclosure. Following this stud will present the main theories reported on the literature.

Legitimacy theory explains that the companies wish to be seen positively by society. As Frynas and Yahamaki (2016) defined: "Legitimacy theory starts with the premise that firms operate on the basis of a social contract between the firm and society, and that firms require social approval, or legitimacy, from society to avoid society's disapproval of its objectives, to gain some rewards and to ensure the firm's survival" (p. 267). Values and cultural environment of a society impact the way companies partake in corporate social responsibility, as a way to match with such values. The extent of a firm's corporate-level social disclosure is a response to an implicit pressure to continuously legitimize the firm's activities.

Companies with higher visibility use social responsibility disclosure to improve corporate image (Branco and Rodrigues, 2008) This perspective is also employed by Cormier & Gordon (2001) to reason that government owned companies disclose more than privately held companies because of higher accountability and visibility. CSR disclosure is more influenced by "public" rather than "economic" pressure (Giannarakis *et al.*, 2014).

In line with legitimacy theory, CSR engagement can also constitute a pre-emptive strategy to create a socially responsible profile for the company or its board of directors (Grougiou *et al.*, 2014). Grougiou *et al.* (2014) demonstrated that certain banks resorted to CSR practices in order to signal internal qualities associated with a socially responsible organisation. Adams *et al.* (1998) also commented on the different motivations for CSR reporting, claiming that German companies view the CSR reports as a way to legitimize their business activities in the eyes of the public.

Studies of legitimacy can be divided into two approaches: strategic, in which the company has a degree of managerial control, and institutional (Frynas and Yahamaki, 2016). Gray *et al.* (1995) point to the fact that legitimacy theory and stakeholder theory can be seen has two overlapping perspectives, in which the first concerns itself with the society as a whole and the second focus on the firm's interaction with particular groups of the society. According to Giannarakis *et al.* (2014), the close relationship with stakeholders that some companies cultivate can be seen as a way to maintain a satisfactory reputation.

Stakeholders theory asserts that the actions of a firm are a direct result of influence from different stakeholders (Frynas and Yamahaki, 2016). In order to achieve continuous success, a company needs to seek the support and approval of its stakeholders (Gray *et*

al, 1995). In that sense, corporate social disclosure is seen as a dialogue between the company and its stakeholders. While research anchored in legitimacy theory provides insight on firm's internal motivations to increase the extent and quality of disclosure, the demand of CSR reporting by the constituents can be seen as an investing signal for future company performance (Abernathy *et al.*, 2017). The increase in demand for companies' CSR disclosure indicate that stakeholders value the information (Abernathy *et al.*, 2017)

Carter and Easton (2011) posit that stakeholders place pressure on companies to improve their business conduct, not only economically, but also socially and environmentally. Meixell and Luoma, (2015) also remark that stakeholders push buyer firms to adopt sustainability-related goals in their sourcing policy, and influence them to implement sustainability in the supply chain.

Bhimani *et al.* (2016) ponder if the greater scrutiny larger companies have from their larger stakeholder base offer a reason why larger companies disclose more than smaller companies. Research from Vilchez *et al.* (2017) presents evidence that stakeholders' influence, and combinations of pressures from different stakeholder groups, extends well beyond the practices to impact the firm's strategy. Dhaliwal *et al.* (2014) found that there is a negative association between the non-financial CSR disclosure and the cost of equity capital. When companies disclose less, the investors feel more reluctant to invest.

Other studies found the opposite, that institutionalized coordination amongst stakeholders has a negative influence on CSR overall (Jackson and Apostolakou, 2010). According to Jackson and Apostolakou (2010) study, corporate social responsibility does not mirror the level of institutionalized participation of stakeholders, but apparently exist in companies to compensate for strong shareholder rights. Companies in countries with a more stakeholder orientation rely more on implicit forms of CSR while in countries with a more shareholder orientation the CSR practices are more extensive and explicit. Öberseder *et al.* (2013) found that companies emphasise the domains of CSR that pertain to their core business, while consumers might consider differently. Industry profiles also impacted how companies discern their priorities in terms of corporate social responsibility reporting.

Regarding the efficacy of consumer's stakeholder group, Aktar (2013) studied consumer responses to disclosure strategies from firms regarding ethical issues. The author found that a company's negative voluntary disclosure did not have a substantial effect on consumer's willingness to pay for products, when public awareness was low. These results suggest that there is some receptiveness from the consumer group to companies publicly disclosing ethical predicaments when their awareness to the subject is still low. Aktar (2013) also found that when public awareness is high on a particular matter, companies that don't disclose information regarding that matter lead to a higher willingness to pay. Manning (2013) commented: "CSR is essentially an organisational response to meet primarily shareholder and secondly multi-stakeholder requirements." (p. 24-25).

Institutional theory works from the point of view that companies follow the practices adopted widely by their industry peers, in a form of achieving some level of social approval (Campbell, 2007). Some studies consider this theory (Jackson and Apostolakou, 2010, Tsang, 1998). Tsang (1998) commented that increases in CSR reporting practices are linked to institutional influences on the companies. The author produced a longitudinal analysis for Singapore companies in the banking, FBT (food, beverage and tobacco) and hotel industries. The time period coincided with the opening of the country's economy to the world and the establishment of foreign multinationals in these industries particularly. What was found was that the disclosure of social responsibility in the hotel and food and beverages sectors increased dramatically in a short period of years (banking increased more steadily) and then stabilised, providing some speculation that an institutional change may have occurred and CSR in Singapore started to standardized at the image of the foreign multinationals. Qu and Leung (2016) also found that the introduction of a global cultural environment improves the disclosure of CSR issues.

Resource dependence theory highlights the importance of the use of critical recourses to improve the company's social performance. Implementation of CSR standards, such as GRI Guidelines and the UNGC (Giannarakis, 2014, De Villiers and Alexander, 2014) are important to convey to stakeholders the commitment to CSR disclosure. Chen and Bouvain, (2009) commented that the increase in membership in Global Compact had an effect in CSR disclosure, converging some industries standards.

Some studies use a multi-theory approach to explain company's disclosure practices. Different motivations exist between companies. Some of this difference can be explained by how early in their time in operations they decided to report (Bhimani *et al.*, 2016). Bhimani *et al.* (2016) found that early reporters (younger companies, mostly) use CSR disclosure as a differentiation tool, while late reporters are more reactive and are mainly pushed to disclose by market or industry pressure.

Another aspect to analysed is the fact that companies mostly report good news (Tagesson *et al.*, 2012, Dobbs and Van Staden, 2016). If only favourable CSR performance metrics are disclosed, then the value of CSR reporting can diminish (Abernathy *et al.*, 2017).

In different ways the theories presented in the literature all acknowledge the choices managers have to make when concerning CSR practices and their disclosure. Resource based theory looks at the firm's decisions regarding CSR as an alignment between it and the company's goals and performance, while theories such as stakeholder, institutional and legitimacy observe how managers fit CSR to align with the expectations and values of the society surrounding the company unit. Overall the majority of studies tend to rely on one single theoretical perspective to address problematics regarding CSR, however Mellahi *et al.* (2016) literature review suggested that typically a complementarity of theories is preferable rather than trying to oppose one another.

2.3. Determinants for CSR disclosure: relevant studies

A summary of some of relevant studies regarding corporate social responsibility disclosure can be found in Table 1.

Size of the company has been found by several studies to have an association with the extent of the company's corporate social disclosure (see, for example, Gallego-Álvarez & Quina-Custodio, 2016, Giannarakis, 2014, Hackston & Milne, 1996, Van der Laan Smith *et al.*, 2005). Larger companies have a higher level of corporate social responsibility disclosure than smaller companies (Hackston & Milne, 1996, Adams *et al.*, 1998).

Authors	Year	Country(s)	Measure of CSRD	Significant determinants
Hackston and Milne	1996	New Zealand	Author's content analysis	Size Industry
Giannarakis	2014	USA	Bloomberg's ESG score	Profit Financial leverage Size Board's commitment
Giannarakis *et al.*	2014	USA	Bloomberg's ESG score	Size Industry Board's size
Gallego-Álvarez and Quina-Custodio	2016	Global	Author's content analysis	Size Financial leverage Industry sustainability indices
Van der Laan Smith *et al.*	2005	USA, Denmark, Norway	Author's content analysis	Size Cultural dimensions
Garcia-Sanchez *et al.*	2016	Global	Adoption of GRI Guidelines	Cultural dimensions Legal system Ownership Structure
Tagesson *et al.*	2012	Sweden, Croatia	Author's content analysis, questionnaire	Size Industry Country of establishment
De Villiers and Alexander	2014	Australia, South Africa	Author's content analysis	Local environment and regulations
Lim	2017	Global	Adoption of GRI Guidelines	Field factors Level of development Stakeholder orientation
Bowrin	2013	Caribbean	Author's content analysis	Size Industry Foreign influence Organizational culture
Kansal *et al.*	2014	India	Author's content analysis	Industry Profitability
Reverte	2009	Spain	OCSR ratings	Media Exposure Size Industry
Cormier *et al*.	2005	Germany	Author's content analysis	Risk Reliance on capital markets Ownership
Aggarwall and Goodell	2013	Global	Author's content analysis	Cultural dimensions
Brammer and Pavelin	2006	United Kingdom	independent report (PIRC)	Size Financial leverage Ownership structure

Table 1 - Summary of studies investigating determinants of CSR disclosure

Brammer and Pavelin (2006) found that larger firms find the costs of disclosure more manageable but also face a higher pressure to disclose. This interpretation finds merit with the stakeholder theory. Other authors posed that the association is explained by the fact that the larger a company is, the higher its public visibility is, and therefore the company is expected to exhibit more concern to improve its image and reputation (Branco and Rodrigues, 2008).

Hackston & Milne (1996) pointed out that the size can be a good proxy to determine the magnitude and frequency of activities from the company to provide information to

investors to assured them of the company's riskier activities. Alternatively, size-disclosure relationships may support the theory that companies attempt to mitigate their more noticeable impacts in the society.

According to the literature developed size is very much relevant: large companies are able to absorb extra costs of the development of CSR disclosure, have more visibility, they attempt to reduce political costs and they avoid regulation and scrutiny from stakeholders (Giannarakis *et al.*, 2014)

Contrary to some of research, Aggarwall and Goodwell (2013) found that size of the company and reliance on market-based financing had a negative impact on the transparency.

Hackston and Milnes (1996) conducted a comparative study between industries and identified industries with different risk profiles, which in turn impact the extent of corporate social disclosure the firms where available to provide. Comparable to size, industry is the other most common significant factor that explains the level of corporate social disclosure (see, for example, Tagesson *et al.*, 2012, Brammer & Pavelin, 2006, Knox *et al.*, 2005). Explanations for this determinant have been advanced by several studies. In their cross-sector study, Brammer & Pavelin (2008) found that the quality of the companies' environmental disclosures was only associated with the industrial sectors and that the media exposure could varied more between industry sectors than across firms. Some industries may face more stringent regulatory environments than others (Adams *et al.*, 1998).

Kansal *et al.* (2014) found industry and profitability to be significant for CSR disclosure. Hackston and Milne (1996) raised the point that correlations are found between financial measures of size of company and industry classifications when evaluation the extent of corporate-level social responsibility.

Cuganesan *et al.* (2010) explored the existence of variation between subsectors in amount and type of CSR disclosure within the food and beverage industry in Australia. The authors found that sub-sector profile did not explained the differences but diversity within sub-sectors and the size of the company did. The most common type of disclosure pertains

to education and information of the public regarding strategy and behaviours adopted by the companies.

Giannarakis (2014) found a strong positive relationship between the profitability of a company and the extent of its CSR disclosure. Profitable companies have more resources to devote on promoting their image and performance. According to Wang and Li (2016), the quality of the CSR reporting impacts the market valuation of a company. Several studies did not find any significant relationship between profitability and corporate social disclosure (Gallego-Álvarez and Quina-Custodio, 2016, Reverte, 2009).

Dobbs and Van Staden (2016) reveals that shareholder rights were one of the most important factors impacting reporting. Cormier *et al.* (2005) found that concentrated ownership and foreign ownership to have a negative impact on environmental disclosure. Companies in where dominant shareholders exist are not expected to respect the minority interests of the other investors. The negative influence of foreign ownership was more surprising, since it was expected that companies that have a larger proportion of foreign shareholders would feel the necessity to provide more information.

Brammer and Paveline (2006) found dispersed ownership to be associated with a higher likelihood to increase the environmental information disclosed. Furthermore, stakeholders can be leverage by companies to help push policy commitments into the supply chain (Busse *et al.*, 2017).

Wang and Li (2016) explored the market reaction in China to companies that start reporting on corporate social responsibility issues. It was found that investors value a firm's CSR practices when making investment decisions, and the disclosure of first-time standalone CSR reports can mitigate negative market responses to earnings announcements.

CEO duality was found to have a positive effect in CSR disclosure when present in high ownership concentration environment (Dias *et al.*, 2017). Wong and Millington (2014) found that specialist assurors where important in order to improve the quality and truthfulness of the reports. Companies that ensure the presence of assurors achieved

Innovative determinants such as amount of greenhouse emissions and women on the board are been considered in the literature (Giannarakis, 2014, Giannarakis *et al.*, 2014, choice of auditor (Tagesson *et al.*, 2012)

Cormier *et al.* (2005) found significance in the information costs as a motivator to increase the quality of disclosure of environmental responsibility. Information asymmetry between the board and investors. If the reporting is not credible

Dhaliwal *et al.* (2012) developed four proxies for stakeholder orientation based on the factors that describe the supremacy of stakeholders. The proxies measured the country's legal environment, the country's level of mandatory disclosure, the public's concern for CSR issues and the attitude of corporate executives towards CSR activities.

Van der Laan Smith *et al.* (2005) performed a comparative study between Danish/Norwegian and US companies in order to try to capture the cultural differences between the different countries. They found significance in the country of origin variable for larger companies, determining that there is evidence to support that the stakeholder orientation of Denmark and Norway had a positive association with the extent and quality of the corporate social responsibility disclosure of large companies in those countries, when compared with US companies. A finding further expanded by Lim (2017) to provide distinction between developed and developing countries. National factors impact disclosure in developed countries while for developing countries global factors looked to be the more influential for CSR disclosure. The spread of company professionalization and the emerging of global templates widely adopted, such as GRI Guidelines (De Villiers and Alexander, 2014) can potentially "thin the gap" that may exist between countries with diverging stakeholder/shareholder orientations (Lim, 2017). Garcia-Sanchez *et al.* (2016) found that the culture dimensions influence the companies' interest in pursuing standardized CSR disclosures.

Tagesson *et al.* (2012) found that country of origin was significant. Dhaliwal *et al.* (2014) found that the negative association between disclosure and cost of equity capital is stronger in countries that are more stakeholder-oriented. Other studies don't find significance in the countries or cultures (Bowrin, 2013). Comyns (2016) found no differences in the greenhouse gas reports between countries in the oil and gas companies, despite the fact of the proactive stance on environmental issues taken by European

companies. The authors suggest: "This result supports the notion that companies in the same industry sector mimic the practices of their industry peers, which results in the adoption of similar practices regardless of geographic location" (p. 14). A likely scenario stands in the middle: companies can be and are influenced by their national and organizational cultures, however they are also influenced by industry best practices and standardization of reporting.

2.4. The Behind the Brands initiative

According to the United Nations and the World Bank, about one in nine people in the world experience hunger on a daily basis while, at the same time, 2.1 billion people are considered overweight and obese[1]. To compound, by 2050 the world needs to produce at least 50% more food while it is predicted that climate change may deplete the crop yields by more than 25%[2]. The current global food system was not capable on its own to address this challenge. In 2013, Oxfam, an international confederation of 20 organizations working together with the objective to alleviate world poverty, launched the *Behind the Brands* initiative, a project part of the GROW campaign[3] to challenge the top 10 biggest companies of the food and beverage industries on their social and environmental policies and practices, within their internal organizations and, more importantly, their supply chains.

In 3 years, the 700 000 and more actions of consumers and NGO managed to produce an impact in the policies of the largest companies in the industry. According to *Behind the Brands,* the average score of the big 10 has improve 18% in three years (Behind the Brands, 2014)

The core tool of the *Behind the Brands* campaign is the *Behind the Brands* scorecard. The scorecard examines the corporate social responsibility policies of the companies in the food and beverage industries through seven key areas in the agricultural and industrial production processes, alphabetically: climate change, farm workers, land, small-scale farmers, transparency, water and women. For each subject (excluding transparency) the company behaviour is identified and analysed in order to judge if the company and its

[1] See http://www.worldbank.org/en/topic/agriculture/overview
[2] See http://www.un.org/en/sections/issues-depth/food/
[3] For more information regarding GROW campaign, please check http://www.oxfam.org/en/grow/

policies are aware of the issues, if and how they are measured and reported, how the issues are addressed, what are the company's commitments and how does all of this translates into the company's supply chain. The Transparency theme is focused on four particular categories that evaluate the level of disclosure of specific matters on a corporate-level. These matters include for example sustainability decision making on the company, political lobbying, disclosure of sourcing partners and company's audit systems. Since the Transparency dimension is the focus of this study, a more detailed description will be detailed in Chapter 3 – Methodology.

Therefore, the ten companies evaluated by Oxfam campaign include the 10 biggest companies from the food processing industry and the beverage industry: Associated British Foods, Coca-Cola, Danone, General Mills, Kellogg Company, Mars, Mondelez, Nestlé, PepsiCo and Unilever.

2.5. Hypothesis development

According to the literature review discussed, several factors can influence the level and quality of the disclosure of corporate social responsibility. Studies presented several determinants of the corporate social disclosure practices, however two were the most consistently referenced and tested in the literature reviewed: size of the company (see, for example, Gallego-Álvarez & Quina-Custodio, 2016, Giannarakis, 2014, Hackston & Milne, 1996, Van der Laan Smith *et al.*, 2005) and industry in which the company belonged (see, for example, Tagesson *et al.*, 2012, Brammer & Pavelin, 2008, Knox *et al.*, 2005).

Several studies found a positive association between the size of the company and the extent of corporate social disclosures (see, for example, Gallego-Álvarez & Quina-Custodio, 2016, Giannarakis, 2014, Hackston & Milne, 1996, Van der Laan Smith *et al.*, 2005). Size of the company has been used as a

Thus, this study hypothesises that:

> H1: There is a positive association between the size of a company and the extent of corporate-level social disclosure.

Legitimacy theory applied in corporate social responsibility presents the concept that companies pursue CSR policies in order to achieve validity from the shareholders and to a large extent, the stakeholders. This study also acknowledges the contribution of stakeholder theory for the analysis of the corporate social responsibility, that is to say, that the interactions between the company and its multiple stakeholders are crucial for the success of the company (Chiu and Wang, 2015, Knox *et al.*, 2005). These two frameworks make acknowledgements to the importance of external determinants in the form of public visibility and/or stakeholder pressure. Tate *et al*. (2010) mentions how final consumers can represent a powerful pressure group to a company that is consumer-focused. The food processing industry has been exposed to criticism, particularly related to issues in their supply chains. Studies in the agricultural business have reported that the influence of firm's image and reputation differ along food supply chains (Luhmann and Theuvsen, 2016). Maloni and Brown (2006) proposed that additional research needs to investigate if differences levels of supply chain have different CSR standards. Moreover, managers are cognizant of customer pressures to the firm and seek to address them by keeping contact with members of the supply chain (Carter and Jennings, 2004). This is echoed by Manning (2013). For the author, the flow of information along the food supply chain is dominated by retail stakeholders that hold a higher control of the information flow with the consumers. When consumer engagement changes, so thus the CSR requirements, a driver that flows along the supply chain. Behind the Brands (2014) offers an anecdote: the consumer actions conducted across three years were targeted directly at retailers and brand companies, and were determinant to add pressure to the companies to disclose more data.

Given the background of external pressures influencing CSR strategy, the study sought to propose the hypothesis that companies in the food processing industry that sell brand products directly to final consumers have more public visibility among the customers than companies that only sell to other processors and manufacturers. Therefore, it is hypothesized that, although within the same industry, companies may face different levels of public scrutiny and stakeholder pressure dependent on their overall position in the supply chain.

H2: The proximity of the company to the final consumers, that is, if the company sells directly to the final consumers or to other companies, impacts positively the extent of corporate-level social disclosure.

According to institutional theory, companies operate within contexts that shape their behaviours (Campbell, 2007). Culture of the home country has an influence on the disclosure level of CSR reports by the companies (Van der Laan Smith *et al.*, 2005, Tagesson *et al.*, 2012). Other studies research differences between countries. Van der Laan Smith *et al.* (2005) found that factors from stakeholder theory area also applicable in explaining the CSD differences between corporations from different countries

Gray (1988) proposed the secrecy value, defining it as "a preference for confidentiality and the restriction of disclosure of information about the business only to those who are closely involved with its management and financing as opposed to a more transparent, open and publicly accountable approach" (Gray, 1988, p. 8). He argued that the higher a country's levels of uncertainty avoidance and power distance and the lower its level of individualism, the more likely it is to present a high level of secrecy. In the study done by Hope *et al.* (2008), secrecy culture of a country could translate into higher likelihood of companies from that country withholding information and therefore negatively impacting the audit quality the companies committed to. Building from Gray (1988) framework, Hope *et al.* (2008) constructed secrecy as the combination of the dimensions of national culture developed by Hofstede *et al.* (2010): power distance (PDI), Individualism (IDV), uncertainty avoidance (UA) and an alternative version including masculinity (MAS).

Oriji (2010) considered the secrecy through its components and as a whole and described a negative relation between the disclosure level of CSR reports and the secrecy in society although the relationship was not linear with the consideration of primary and secondary stakeholders.

Thus, the study hypothesizes that the level of corporate-level social disclosure is influenced by the culture the company is established in:

H3: The culture of the country of establishment impacts the extent of corporate-level social disclosure.

3. Methodology of investigation

In order to achieve its purpose, the study employed content analysis, a methodology abundantly utilized in the research of corporate social responsibility (see, for example, Hackston and Milne, 1996, Gallego-Álvarez and Quina-Custodio, 2016, Van der Laan Smith *et al.*, 2005, Tagesson *et al.*, 2012, De Villiers and Alexander, 2014). Content analysis is a technique of gathering data disclosed in the form of text or content (such as graphs or maps) and code it into different categories (Guthrie *et al.*, 2004). Disclosure of corporate social responsibility is mainly found in text or content form, presented in corporate reports, the company's website and corporate communications making this an appropriate method to use.

The study follows the framework been used by Oxfam in their *Behind the Brand* initiative. The scorecard constructed by Oxfam was designed to assess the ten largest companies in the food and beverage industry and covered crucial areas relating to the agricultural production and sustainability (The Behind the Brands scorecard methodology, 2014). A linear regression model is used with the extent of corporate-level social disclosure as the dependent variable. A series of independent variables are considered in order to test the hypothesis developed in the previous chapter.

The sample selection will be presented next.

3.1. Sample selection

For the purpose of the sample it was considered the database Forbes 2017 Global 2000 - The World's Biggest Public Companies, provided by Forbes magazine. Every year, Forbes magazine produces a ranking of the top 2000 public companies in the world, measured by a mix of four metrics: sales, profit, assets and market value. All metrics are equally weighted and calculated based on the latest financial data available for each company. It also provides the data for the industry sector each company is operating in and, in case of conglomerates spread across several sectors, it assigns to the company the sector with the largest weight in the sales.

The sample was selected by filtering for companies classified in the Food Processing sector. The Food Processing sector provides the most relevant sample of companies for

the construction of the scorecard. Following the same arguments presented in the *Behind the Brands* report from Oxfam (Behind the Brands, 2014), this industry has constructed international supply chains, increasingly in countries where small-scale farming is still prevalent in local communities. From the list of 2000 biggest public companies, 46 belong to the Food Processing sector.

From the total of the 46 companies, the highest in the top 2000 is the number 34 Nestlé. The distribution of the companies in the rank is deemed adequate. Including Nestlé there are 3 companies in the first 500, 11 between 500 and 1000, 14 between 1000 and 1500 and 13 are in the last 500, ranked between 1500 and 2000.

Comparing with the sample selection for the initiative *Behind the Brands*, this study doesn't include companies from the Beverages sector and privately held companies. The inclusion of the Beverage industry could have improved the assessment of the score, since companies in this sector are important buyers of key commodities identified by Oxfam. Also, the sample of companies would be larger, potentially contributing to improve the reach of the study and the new industry would opened possibilities to test differences between the industries. On the other hand, the beverage industry includes breweries and other producers' of alcoholic drinks, a category of companies explicitly excluded by Oxfam in their analysis. A compromise was decided to exclude the beverage industry. Regarding privately held companies, a different database could have been used that includes these companies. Because of this, some of the largest companies in the industry, such as Mars and Cargill, were not included. The definition of the sample is definitely constituting a limitation of this study and is remarks in the last chapter.

3.2. Construction of the Scorecard

As mention before, the initiative *Behind the Brands* from Oxfam developed the scorecard to rank the companies on their agricultural sourcing policies. The complete scorecard assesses seven dimensions: transparency, farmers, workers, women, climate change, land, and water. Each of the themes, excluding transparency, is elaborated separately and is divided in four key categories that evaluate awareness, knowledge, commitments and supply chain management. Concerning the objectives of this study, only one of the dimensions, the transparency indicator, will be assessed. The transparency theme is

structured differently from the other six themes, developing a broader focus and concentrating in capturing the disclosure level not covered specifically by the other thematic areas. All seven themes of the scorecard ponder to some extent the transparency the company is offering, although the other six themes focus in awareness and policies regarding the respective dimension while the transparency dimension tried to assess the extent to which the information regarding corporate level policies that impact the other themes is disclosed by the company.

According to Oxfam, the transparency theme "assesses corporate-level transparency issues" (Behind the Brands, 2014), as oppose to the other six themes that handle the disclosure regarding specific issues for each respective theme. Corporate-level transparency has always been important in the business world, because of the impacts of the transparency on the shareholders, and more importantly, the remaining stakeholders (Gray *et al.*, 1995). With this increasing transparency, companies have become more accountable for their impacts in the society.

For the preparation of the scorecard the assessment is exclusively focused on publicly available information provided by the companies. By publicly available information it is meant: corporate social responsibility or sustainability reports, supply chain sourcing policies or action plans, supplier's code of conduct, annual reports to shareholders, press releases, other corporate communications and disclosed information found in government agencies, such as the United States' Securities and Exchange Commission. Fifka (2013) remarked that non-financial reports and websites have gained importance in recent years, although annual reports continue to be the main disclosure tool for companies. Due to this method, the assessment for the scorecard preparation will focus on stated policy commitments from the companies and not actual practices. Oxfam recognizes that implementation in practice of policies commitment is not always 100%, however policies are indicators of a company's commitment and therefore deserve consideration. (Behind the Brands, 2014). A disconnect may exist between policies and practice, as Dobbs and Van Staden, 2016 remark: "There is greater opportunity for reporting exaggeration in the area of stakeholder engagement, as even a single sentence could indicate that a stakeholder forum existed (regardless of quality), when in practice, the forum may not be actively used, thus, it does not provide useful stakeholder engagement and is therefore not recognised in the survey." (p. 467)

The exhaustiveness of the research is meant to grant the fairest evaluation for each company, since companies have preferences for some disclose methods over others or simply don't aggregate all the data they want to disclose. Nonetheless it is acknowledged that a 100% search is impossible to obtain.

The scorecard for the transparency dimension is divided in four categories. The four categories address relevant issues regarding the availability of information for matters comprising governance, lobbying, tax policy, financial data, commodity volumes, partners and sourcing practices. Each category is equally weighted (meaning each representing 25% of the final score) and is further divided into indicators and respective sub-indicators, that are also weighted equally within. All sub-indicators consist of a single binary question, giving it 100% or 0% for each sub-indicator, and each indicator is scored proportionately for each sub-indicator score. For example, consider category T3 (Corporate reporting) and indicator code T3.1, regarding disclosure of supplier names. The weight of the indicator in the category is 50%, half of the category score. This indicator is further divided into eleven sub-indicators. Therefore, each sub-indicator will be worth 4,55% of the category score (11 × 50%). Exceptions are made for two cases: for indicators T2.2, T2.3 and sub-indicator T3.2.1, where only the five best scores are considered, and for indicator T1.2, where sub-indicators T1.2.2 and T1.2.3 are mutually exclusive and therefore the five sub-indicators for this indicator are weighted appropriately at 8,33% (4 × 33,33%).

The first category details the *Corporate Reporting*. The scorecard examines in this category several sub-indicators such as the compliance with the GRI framework, political lobbying and tax policy and financial data disclosure. Adoption or compliance with GRI Guidelines has been used by other studies as a proxy for level of disclosure (Garcia-Sanchez *et al.*, 2016, Lim, 2017). By assessing the application level a company adopted, the scorecard manages Regarding the financial data disclosure, companies are scored based on the disclosure of turnover, profits, number of employees and governmental subsidies. The score is also separated in half to account for subsidiaries. Although almost all companies disclose their list of subsidiaries, almost all don't disclose the subsidiaries segregated financial data. This has been a limitation for studies trying to compare country-by-country reporting (Aggarwall and Goodell, 2013).

The second and third category detail volumes and source countries and partners, respectively, for key commodities in the supply chain. The key commodities were selected by Oxfam "based on their relevance to small-scale farmers, farm workers and local communities in developing countries" (Behind the Brands, 2014). They are palm oil, sugar cane, soy, cocoa, coffee, tea, tropical fruits, tomatoes and other vegetables, potatoes, dairy products, maize, rice and wheat. For the assessment in the scorecard, the companies needed at least to source 9 of these key commodities (with the particular exceptions to palm oil, sugar cane, soy and cocoa). For all of the companies of the defined sample there was only one case of a company that did not source at least 9 of these commodities in their operations. The case was for Marine Harvest ASA, and for that reason the company was not included in the preparation of the scorecard and final results. For some of these commodities, companies source directly from farms while for others the sourcing is indirect, through intermediaries. There is no distinction between the two cases in the scorecard. Supply chain visibility is therefore not an issue here, since for many companies, possessing and acquiring knowledge from second tier-suppliers can be a daunting and costing task (Busse *et al.*, 2017).

The fourth and final category handles with the transparency regarding supplier policies and engagement with suppliers. The category covers issues regarding supply chain management of suppliers, particularly the disclosure level of supplier assessment and audit conducted by the company. Promoting a responsible purchasing policy is of the interest of companies since missing in this aspect may harm their overall reputation (Carter and Jennings, 2004).

3.3. Variables

Dependent variable: Corporate-level social disclosure - CSD

According to the literature reviewed, the most common measure for the level of corporate social responsibility disclosure presented by the academic field is content analysis of company's reports, websites and /or corporate communications. Some studies utilize extent measures like word/sentence count (Hackston and Milne, 1996, Tagesson *et al.*, 2012, De Villiers and Alexander, 2014), word/sentence mapping (Chen and Bouvain, 2009) or other quality scores (Hackston and Milne, 1996, Chiu and Wang, 2015). In some

studies, these methods are used interchangeably with the purpose of assessing both extent and quality of CSR disclosure. Other studies construct a scorecard based on direct assessment (see, for example, Kansal *et al.*, 2014, Cormier *et al.*, 2005) or survey, that once completed for a company provides a score indicative of the extent of the disclosure. These scorecards can be simply binary (either yes or no) or having a scale to also determine the quality of disclosure (Hooks and Van Staden, 2011). Studies are also making use of disclosure indices, such as Bloomberg's environmental, social and governance score (Giannarakis, 2014), reports' GRI application level (Lim, 2017) or companies' GRI Guidelines adoption to proxy the CSR disclosure of a company. Hooks and Van Staden (2011) established that all of these different methodologies of content analysis produce consistent results between them. Furthermore, they also found that measures for extent and quality are highly correlated. Companies that had better quality in their corporate social reporting also had more reporting in general.

As was mention in the previous point, for the measurement of the corporate-level social disclosure (CSD), and since are sample will comprise of companies in the food processing industry, this study will operationalize one of the dimensions, transparency, of the *Behind the Brands* scorecard. Utilized by Oxfam for several years, the scorecard's transparency dimension was primarily designed to measure the extent of corporate-level social disclosure of multinational companies in the food and beverage industry. Quality of the disclosure will not be investigated, although the fact that the scorecard was intended to evaluate specific issues regarding this industry lends some robustness that the final score will also measure quality of the disclosure (Hooks and Van Staden, 2011).

Independent variables: SIZE, PROX, PDI, IDV, MAS, UA

Regarding the independent variables, size of the company has been consistently found to influence the level of corporate social responsibility in companies and the extent of the disclosure. Several different measures have been used to evaluate a firm's size: net sales (Tagesson *et al.*, 2012), market capitalisation (Hackston and Milnes, 1996) and total assets (Giannarakis, 2014, Kansal *et al.*, 2014, Cormier *et al.*, 2005) are the more popular among studies in the academic field. For this study, the log of net sales for the last accounting year, provided by Forbes website, will be considered a proxy for the size of the company.

The position in the supply chain variable will be designated PROX, and it is a nominal variable which will assume one of three values, representing the three situations that the study identified and deemed adequate: 0, for when the company only sells to other manufactures/processors, 1, if the company sells to other producing companies but also to the final consumer, and 2, if the company in question only reports sales directed for final consumption.

Hofstede's cultural differences, PDI, IDV, MAS and UA, have been utilized by other studies (Aggarwall and Goodell, 2013, Hope *et al.*, 2008, Oriji, 2010, Van der Laan Smith *et al.*, 2005) to stand as proxy for the national culture of a country. In order to investigate the effect of national culture on the food processing industry the study includes the four dimensions in the regression model. The expected relationships follow the framework proposed by Gray *et al.* (1995): a positive association is expected between CSD and IDV, negative associations are expected between CSD and PDI, UA and MAS.

A control variable was added, AGE. The purpose of this variable is to access if age of a firm is statistically significant to explain the extent of corporate-level social disclosure. The variable AGE is considered by the years in activity since the year of incorporation. On one hand company's age is not a common determinant considered by the literature, only showing up in a few studies (Cormier *et al.*, 2005, Kansal *et al.*, 2014), on the other hand in those few studies significance in determining the extent of disclosure was found. The direction of the relationship (positive or negative) is less defined (Cormier *et al.*, 2005).

3.4. Regression

For this study the statistical analysis includes the use of a linear regression model to analyze the relationship between the dependent variable corporate-level social disclosure (CSD) and each of the independent variables referenced in the previous point. The following regression model summarizes the approach taken:

$$CSD = \alpha + \beta_1 SIZE + \beta_2 PROX + \beta_3 PDI + \beta_4 IDV + \beta_5 MAS + \beta_6 UA + \beta_7 AGE + \varepsilon$$

SIZE – size of the company

PROX – proximity to final consumer

PDI – power distance

IDV - individualism

MAS - masculinity

UA – uncertainty avoidance

AGE – years in activity since incorporation

4. Analysis and Results

In the following chapter the main results of the study will be presented.

The data was collected between July and August of 2017 and therefore the study had access to the most recent report for all companies, either reporting to 2016 or 2015/2014 for companies that only report biennially. In a few cases a summary of the 2017 CSR report was prepared by the company.

The data was processed using Microsoft Excel and analysed through the data processing program IBM SPSS Statistics (Statistical Package for the Social Sciences), version 24.

4.1. Characterization of sample

The scorecard was constructed for 34 of the 46 companies presented in the *Forbes 2017 Global 2000 - The World's Biggest Public Companies* from Forbes website. Other data such as net sales and year of incorporation was gathered from Forbes website, in the page for each respective company. The data is collected by checking all the available disclosed data although an imposition was made to only examine communications three years back from 2017. This was done to guarantee that the study was comparing corporate-level social disclosure from a defined period of time. For example, the first scoring parameter, application level of GRI Guidelines, only accounted for G3 Guidelines and forward.

Of the 12 companies excluded from the scorecard preparation, six did not or stopped disclosing data regarding corporate-level social responsibility in annual reports after 2014. They were Almarai, Dali Foods Group, Foshan Haitian Flavouring and Food Company, Kraft Heinz Company, NH Foods and Saputo. For four of these cases, Almarai, Dali Foods Group, Foshan Haitian Flavouring and Food Company and NH Group, the other more recent reports are prepared in their native language. In the case of Saputo, the data stopped been disclosed, however disclosed data from the previous years to 2014 still exists in their website. The decision was made to excluded the companies from the scorecard preparation as several indicators could not be scored appropriately. Four companies had their corporate reports prepared in their native language, three in Chinese and one in Japanese, with no translation provided. They were Guangdong Wens Foodstuffs Group, Meiji Holdings, New Hope Liuhe and Tingyi Holding. This presented

a challenge since other communications were in fact provided in English, however the reports were considered crucial pieces of disclosure for the companies and the inability to consider them would skewed the score. One company, CJ Corp, is the parent company of CJ Cheiljedang, also part of the sample and their subsidiary in the food processing industry. CJ Corp is a South Korean conglomerate that comprises several businesses in different industries but originally started in the food processing industry (with CJ Cheiljedang). CJ Cheiljedang is CJ Corp main subsidiary in the food processing industry and therefore an analysis of CJ Corp CSR report (specifically in their food industry section) would inevitably end with a replication of the analysis of CJ Cheiljedang. To avoid the duplication of data points and assuming that the CSR report of CJ Cheiljedang will be more thorough in regards to the points of sustainability it was decided to exclude CJ Corp from the construction of the scorecard. The same situation appeared again concerning Kraft Heinz International and Mondelez International, the latter being a subsidiary of the former, yet as was mentioned above, the exclusion of Kraft Heinz International from the sample for the scorecard solved the issue beforehand. Finally, one company, Marine Harvest ASA, only operates in the seafood business. Other companies that are part of the defined sample also operate in the seafood business however in no other situation it is their main business operation. The seafood sub-sector has very specific inputs that are not analysed in the third category of the scorecard. This creates a situation where the company Marine Harvest ASA factually could not be accessed for 25% of the scorecard score. The decision was made to exclude the company from the sample.

A special case is noted for Tyson Foods. Until 2014 Tyson Foods prepared its sustainability reports in PDF format, however in 2015 and 2016 Tyson Foods switched and started presenting the sustainability report directly in its website. The assumptions to score the company in the scorecard were present and therefore it was prepared, however the 2015 CSR report was inaccessible in their website (the archive hold the reports prepared in PDF format until 2014) and its expected that the 2016 CSR report will also become inaccessible when the 2017 CSR report is prepared.

From the original 10 companies present in the Behind the Brands scorecard this study didn’t include four: Coca-Cola and PepsiCo, two companies that belong in the Beverages sector, Unilever, whose main operation is Household Consumer Goods, and Mars, which

is a private company. The list of companies that are part of the final sample can be found in Appendix (

Table 15).

4.2. Descriptive Analysis

In the following Table 2 it is possible to observe the total number of companies analysed, the geographical location of their headquarters and average age in years since incorporation. The country more represented is the United States of America with thirteen companies, constituting 38,24% of the sample of companies. The second and third country more represented is Switzerland and Singapore, with three companies, constituting 8,82% of the sample of companies, each. Significant is the weight of the Asia region in the total of the sample, with twelve companies in total, a total of 35,29%, about a third of the sample of companies. The weight of Asia, compounding with the fact that the region has the youngest companies, displays the strength and growth this region has experienced in the past decades. Furthermore, all of the companies' headquarters concentrate in East and Southeast Asia, a crucial region for many key commodities, namely palm oil, milk and tea leaves.

Region	Observations	Countries	Average age (years since incorporation)
Asia	12	China (2), Hong Kong (2), Japan (1), Singapore (3), South Korea (1), Taiwan (1), Thailand (1), Vietnam (1)	34,42
Europe	6	France (1), Ireland (1), Switzerland (3), United Kingdom (1)	98,50
Latin America	3	Brazil (2), Mexico (1)	73,00
USA	13	United States of America (13)	125,08
Total	**34**		

Table 2 - Number of companies per region, country and average age since incorporation

Another interesting factor is present in Europe region, where two companies, Barry Callebaut and Kerry Group, whose age are described in Forbes as 23 and 45 respectively,

have significantly lower age than the other companies in the region. The explanation lies in the fact that these companies originated from mergers from other companies and the year of incorporation was resected. This fact provides a limitation that this study did not foresee when designing the control variable. Any conclusions to be drawn from this variable will have this issue in mind.

Regarding the mean final score of the scorecard (shown on Table 3), the region with the highest average final score is Europe, with 36%, while Asia is the region with the lowest average final score. With the desegregation by the four dimensions, T1, T2, T3 and T4, the Europe region is the highest across all four dimensions, with the USA region in second. A note to the average T3 score of companies in the Latin America region, which is 0, meaning the three companies included in the region did not disclose any sourcing volumes, countries and trade partners for any of the key commodities.

Regions	Number of companies	Mean Final Score	Mean T1 score	Mean T2 score	Mean T3 score	Mean T4 score
Asia	12	16%	29%	7%	6%	22%
Europe	6	36%	42%	30%	24%	49%
Latin America	3	19%	33%	4%	0%	39%
USA	13	22%	37%	10%	17%	23%
Total	**34**	**22%**	**34%**	**12%**	**13%**	**29%**

Table 3 - Mean final score and mean indicators scores per region

Table 4 provides a further analysis by country, although the size of the sample does not afford a noteworthy examination. France, with one company, has the highest average final score.

- Regarding Corporate Reporting (T1), the highest average score belongs to France, while the lowest belongs in Vietnam.
- Regarding Disclosure of Sourcing Volumes (T2), the highest score belongs to France. Six companies distributed by five countries (Hong Kong, Ireland, Japan, Mexico and Taiwan) scored 0, not disclosing any volumes sourced for any of the key commodities.

- Regarding Disclosure of Sourcing Partners and Countries (T3), the highest score belongs to France and United Kingdom. 10 companies distributed in 7 countries (Brazil, China, Hong Kong, Mexico, South Korea, Thailand and Vietnam) scored 0, not disclosing first-tier or second-tier suppliers (in case first-tier supplier was a subsidiary) or countries for any of the key commodities. The low score in this indicator may give credence that as a company is more upstream in the supply chain, than the public visibility will be lower and the companies will feel less pressure to engage in corporate-level social disclosure.
- Regarding Transparency of Audit Systems (T4), the highest score belongs to six companies in four countries (France, Ireland, Switzerland, Taiwan), while the lowest score belongs to Vietnam, scoring 0.

Countries	Number of companies	Average Final Score	Average T1 score	Average T2 score	Average T3 score	Average T4 score
Brazil	2	22%	39%	7%	0%	42%
China	2	11%	17%	3%	0%	25%
France	1	48%	53%	60%	30%	50%
Hong Kong	2	10%	24%	0%	0%	17%
Ireland	1	23%	35%	0%	6%	50%
Japan	1	17%	38%	0%	13%	17%
Mexico	1	14%	21%	0%	0%	33%
Singapore	3	25%	37%	17%	20%	28%
South Korea	1	12%	22%	8%	0%	17%
Switzerland	3	37%	42%	32%	25%	50%
Taiwan	1	22%	35%	0%	5%	50%
Thailand	1	14%	33%	7%	0%	17%
United Kingdom	1	33%	36%	23%	30%	42%
United States	13	22%	37%	10%	17%	23%
Vietnam	1	7%	22%	7%	0%	0%

Table 4 - Mean final score and mean indicators scores per country

The previous tables provide several conclusions to be taken. The averages scores are higher for companies in Europe, in general. This fact can be interpreted by looking at some of the literature concerning the stakeholder orientation of countries (Tagesson *et*

al., 2012, Van der Laan Smith *et al.*, 2005) that finds that European companies are more stakeholder oriented and therefore companies from European countries have higher levels of corporate social disclosure. However, by having a deeper look at the segregation by the four main indicators, T2 and T3 are unequivocally the main reasons for the differences. It seems that European companies have a higher tendency to disclose their data regarding volumes and sourcing countries and partners for the key commodities.

4.3. Results

4.2.1. Spearman's rank correlation coefficient

Spearman rank correlation test (Table 5) does not make any assumptions about the distribution of the data. The only assumption is that one variable is related to the other variable monotonically. Therefore, Spearman's rho is particularly useful when the data does not meet the criteria of normality for Pearson correlation.

			CSD	SIZE	SEC	PDI	IDV	MAS	UA
Spearman's rho	CSD	Corr.	1,000						
		Sig.	-						
		N	34						
	SIZE	Corr.	,388*	1,000					
		Sig.	0,023	-					
		N	34	34					
	SEC	Corr.	-0,216	0,040	1,000				
		Sig.	0,219	0,823	-				
		N	34	34	34				
	PDI	Corr.	-0,275	0,036	,743**	1,000			
		Sig.	0,115	0,840	0,000	-			
		N	34	34	34	34			
	IDV	Corr.	0,168	0,079	-,816**	-,678**	1,000		
		Sig.	0,342	0,659	0,000	0,000	-		
		N	34	34	34	34	34		
	MAS	Corr.	0,096	-0,159	-,370*	-,501**	,386*	1,000	
		Sig.	0,588	0,370	0,031	0,003	0,024	-	
		N	34	34	34	34	34	34	
	UA	Corr.	0,128	0,183	,357*	-0,178	0,091	0,088	1,000
		Sig.	0,472	0,299	0,038	0,313	0,609	0,619	-
		N	34	34	34	34	34	34	34

*. Correlation is significant at 0,05 level (2-tailed).

**. Correlation is significant at 0,01 level (2-tailed).

Table 5 - Spearman's Rank Order Correlation

To determine the strength of the relationship the value of correlation coefficient is considered. Values between 0 and 1 (or -1) offer a degree of relationship although the

strength of it is questioned by several authors. Pallant (2016) offered a suggestion for the evaluation of the strength of the correlation: values between 0,10 and 0,29 represent a weak association, values between 0,30 and 0,49 represent a medium association and values above 0,50 represent a strong association.

Between the dependent variable CSD, representing the extent of corporate-level social disclosure, and the variable SIZE, signifying the size of the company, the study finds a medium strong, positive correlation, with a rho = .388, and a p = .023, indicating at a level of significance < 0.05 that the size of company is positively associated with the extent of corporate-level social disclosure.

4.2.2. Kruskal-Wallis Test

In order to test the relationship between the corporate-level social disclosure and the proximity to the final consumer we used a nominal variable (0,1 or 2) designating the three groups of companies that the study evaluated: companies that only sold to other processors/manufacturers (labelled as 0), companies that only sold to final consumers (labelled as 2), and companies that sold to both (labelled as 1). According to Pallant (2016), the Kruskal-Wallis Test is a nonparametric test that allows the comparison of scores between three or more groups and therefore it is utilized to find if there are statistically significant differences between groups of an independent variable.

The mean rank of the corporate-level social disclosure for each can be used to compare the effects of proximity to final consumers. The Results of the Kruskal-Wallis test can be examined in the Table Statistics (Table 6) to assess if the different groups have different levels of corporate social disclosure.

PROX		N	Mean Rank
CSD	0	4	16,63
	1	10	16,65
	2	20	18,10
	Total	34	

Test Statistic [a, b]

	CSD
Chi-square	0,176
Df	2
Asymp. Sig.	0,916

a. Kruskal Wallis Test
b. Grouping Variable: PROX

Table 6 - Kruskal-Wallis Test

A Kruskal-Wallis test showed that there was only a statistically significant difference in corporate-level social disclosure between the different positions in the supply chain at $\chi 2(2) = 0{,}176$, $p = 0{,}9160$, with a mean rank score of 16,63 for companies that only sell to other companies, 18,10 for companies that only sell to final consumers and 16,65 for companies that sell to both.

This is a non-rejection of the hypothesis that the position in the supply chain does not impact the corporate-level social disclosure of companies. It is to say that no evidence is found to support the hypothesis that the position in the supply chain impacts the extent of the corporate-level social disclosure.

4.2.3 Regression model results

In order to test hypothesis H1, H2 and H3, the study made use of a linear regression model. Beforehand however, an analysis of the assumptions of the model will be conducted. The breakdown will involve an analysis of the residuals statistics and of the multicollinearity of the independent variables.

Firstly, the analysis of residuals statistics will check for normality, linearity and homoscedasticity (Pallant, 2016). The residual statistics can be seen in Table 7 - Residuals Statistics[a]. For our regression model with seven independent variables, the critical value of Mahalanobis distance should be 24.32 (Pallant, 2016). A case exceeding this value would represent an outlier. According to the table, the maximum Mahal. Distance is 18.22. To find out if any undue influence on the results for our model is been done by any strange case, the Cook's distance values can be check (Pallant 2016). If in the dataset a value larger than 1 is found, then the removal of the case should be considered. According to table, the maximum Cook's distance is 0.465, suggesting that no problem is found.

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	0,0683	0,4667	0,2199	0,082	34
Std. Predicted Value	-1,8430	3,0000	0,0000	1,000	34
Residuals	-0,2519	0,2350	0,0000	0,109	34
Mahal. Distance	2,1480	18,2200	6,7940	3,768	34
Cook's Distance	0,0000	0,4650	0,0530	0,120	34

a Dependent Variable: CSD

Table 7 - Residuals Statistics[a]

Another important assumption to check is the error's normal distribution. As seen by Figure 1 - Normal disribution graph, the normality is not perfectly established, although the conclusion that the residuals follow a normal distribution is adequate.

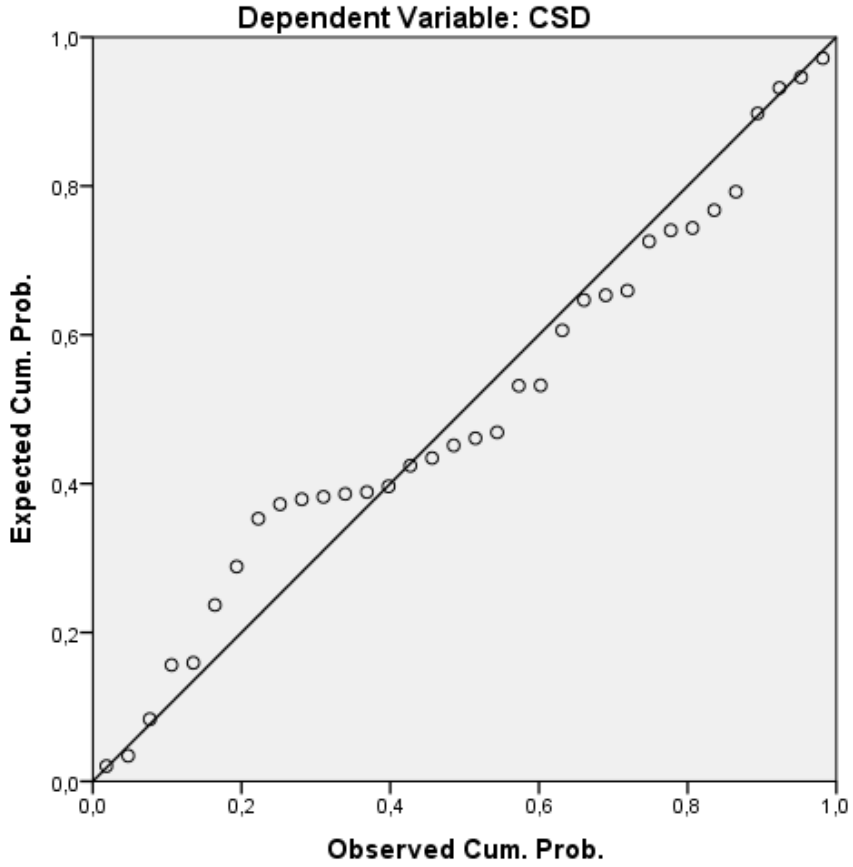

Figure 1 - Normal disribution graph

The Pearson correlation matrix between the independent variable CSD and the dependent variables chosen for this study can be seen in Table 8. The table reports on the direction, strength and significance of the correlation between variables.

Statistically significant correlations are found between CSD and SIZE (sig.<0.01), and CSD and control variable AGE (sig.<0.05). There're also correlations described between the independent variable CSD and two of the cultural dimensions' variables, PDI (sig.<0.07) and IDV (sig.<0.07). The size of the company is found with the correlation of

0.475 with CSD while PROX has a weak positive relationship (0.150) but not significance.

The direction of the cultural variables correlations is also relevant to discuss at this point. PDI correlation to CSD is negative. PDI is part of Hope *et al.* (2008) construction of secrecy, having a positive effect on the value of the composite variable. The negative correlation with CSD is therefore in accordance to Hope *et al.* (2008). The same conclusion can be repeated for the other noted correlation, between CSD and IDV. IDV is also part of the secrecy measure (with a negative effect) and a positive association is present with corporate-level social disclosure.

Finally, it is also visible on the table that some cultural dimensions are significantly correlated with one another (PDI with IDV and MAS, IDV with MAS). The strength of one correlation can also be a concern, -0.861 between PDI and IDV. This strong of a correlation can lead to multi-collinearity, which impacts the predictive power of the regression model with these independent variables.

		CSD	**SIZE**	**PROX**	**PDI**	**IDV**	**MAS**	**UA**	**AGE**
CSD	Corr.	1,000							
	Sig.	-							
SIZE	Corr.	0,475	1,000						
	Sig.	0,002	-						
PROX	Corr.	0,150	-0,111	1,000					
	Sig.	0,199	0,265	-					
PDI	Corr.	-0,264	-0,080	0,152	1,000				
	Sig.	0,066	0,327	0,196	-				
IDV	Corr.	0,266	0,139	-0,086	-0,861	1,000			
	Sig.	0,064	0,217	0,315	0,000	-			
MAS	Corr.	0,066	-0,045	0,002	-0,446	0,436	1,000		
	Sig.	0,356	0,400	0,497	0,004	0,005	-		
UA	Corr.	0,100	0,134	0,202	-0,086	0,075	0,102	1,000	
	Sig.	0,287	0,225	0,126	0,314	0,337	0,282	-	
AGE	Corr.	0,358	0,209	0,031	-0,663	0,773	0,317	0,331	1,000
	Sig.	0,019	0,118	0,431	0,000	0,000	0,034	0,028	-

Table 8 - Descriptive statistics. Pearson correlation coefficient

In According to the R Square value, the model has an explanatory power of 36,1% of the variance in the extent of corporate social disclosure, however, given the small size of the sample a better interpretation is provided by the Adjusted R Square value, of 0.189.

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson

,601[a]	0,361	0,189	0,1233	1,844

a. Predictors: (Constant), AGE, PROX, SIZE, MAS, UA, PDI, IDV
b. Dependent Variable: CSD

Table 9 - Model Summary[b]

To assess the statistical significance of the result, we revert the attention to the Table 10 which presents the ANOVA, that tests the null hypothesis that multiple R in the population equals 0 (Pallant, 2016). The model reaches statistical significance at p-value < 0.08.

	Sum of Squares	df	Mean Square	F	Sig.
Regression	0,223	7	0,032	2,099	,080[b]
Residual	0,395	26	0,015		
Total	0,618	33			

a. Dependent Variable: CSD
b. Predictors: (Constant), AGE, PROX, SIZE, MAS, UA, PDI, IDV

Table 10 - ANOVA[a]

In Table 11 the information regarding the contribution of each variable to the prediction of the dependent variable can be found. The variable with the strongest unique contribution to the determination of the extent of corporate-level social disclosure is SIZE, with a significance value less than 0.01. The H1 hypothesis can be confirmed: there is a positive association between the size of a company and the extent of corporate-level social disclosure. The study findings are consistent with the literature, demonstrating that the firm's size is still a determinant of a company's extent of corporate social disclosure.

Regarding the other variables, they have been found to be not significant, the closest being PROX but only at a sig. value < 0.16. The conclusions is that hypothesis H2 and H3 cannot be accepted.

The model found no evidence that the position in the supply chain, verified by the proximity to the final consumer, influences the level of disclosure of social responsibility. The same conclusion is also present regarding the cultural dimensions. The four variables reflecting the cultural dimensions of Hofstede *et al.* (2010) were not found significant in the model. Between the largest companies in the food processing industry there doesn't seem to be differences in the extent of disclosure associated with the cultural dimensions of the countries where the companies are headquarters. This result is not consistent with

the findings presented by studies such as Van der Laan Smith *et al.* (2005), Aggarwall and Goodwel (2013) and Hope *et al.* (2008) where this study drew inspiration.

Tolerance is an indicator of how much of the variability of the specified independent is not explained by the other independent variables in the model. According to Pallant (2016), a tolerance value less than 0.10 is an indication that the multicollinearity assumption is violated. Variable IDV has, however, a very close value of tolerance (0.169) for example. This again supports the analysis of the Pearson correlation coefficient that the cultural dimensions in their separated form present a correlation risk.

Dimensions	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	0,137	0,254		0,540	0,594		
SIZE	0,170	0,060	0,465	2,835	0,009	0,912	1,096
PROX	0,046	0,032	0,240	1,447	0,160	0,894	1,118
PDI	-0,002	0,003	-0,297	-0,934	0,359	0,242	4,129
IDV	-0,001	0,002	-0,233	-0,611	0,546	0,169	5,902
MAS	0,000	0,002	-0,022	-0,123	0,903	0,771	1,296
UA	-0,001	0,001	-0,109	-0,611	0,546	0,769	1,301
AGE	0,001	0,001	0,280	1,007	0,323	0,318	3,142

a. Dependent Variable: CSD

Table 11 - Coefficients[a]

The rest of SPSS output, Coefficient Correlations (Table 13) and Collinearity Diagnostics (Table 14) can be found in the Appendix.

5. Conclusions

The goal for this study was twofold. To extend the range of companies in the assessment by the *Behind the Brands* scorecard and provide an analysis of the current corporate social disclosure atmosphere in the food processing industry. Second, to investigate whether size of the company, position in the supply chain and national cultural dimensions had an impact on the extent of corporate-level social disclosure.

The study proposed the use of a standardized measure for the evaluation of corporate-level social disclosure and gauge if it is consistent with the literature on corporate social and environmental disclosure. The use of Oxfam's *Behind the Brands* scorecard to assess the dimensions of corporate social responsibility puts more emphasize in supply chain policies, not only in organizational sustainability policies. In the past, CSR was viewed as a purely internal activity of a company (Hartmann, 2011). Nowadays this interpretation is found lacking and companies in the food processing industry feel pressure to ensure their supply chains also respect CSR (Maloni and Brown, 2006).

The study found that the disclosure of corporate-level by companies in the food processing industry is still insufficient. The average final score of the 34 largest companies in the food processing industry was 22%. Differences between regions were also found. The region of Europe had the higher average score, 36%, while in Asia the lower average score was found (16%). The category with the lowest score overall was T3, representing the fact that companies are still uncompromising in disclose the names of their sourcing partners.

The study tried to provide explanation for the differences between the companies. The hypotheses proposed tried to address three determinants for the discrepancy: that the size of the company, measure in net sales, impacted positively the extent of disclosure; that the proximity to final consumers, presented by if the company sold directly to final consumers or to other processors/manufacturers, had an impact with the extent of corporate transparency; finally, we utilized the national cultural dimensions proposed by Hofstede *et al.* (2010) to account for the differences in the cultural environment of the countries where the companies where established. A control variable, AGE, was also employed to evaluate if the age gap between companies, measure by the years since

incorporation, also provided explanatory power for the difference. The regression model was found to be only significant at p-value < 0.08.

Regarding H1, the study found a positive relationship between the amount of net sales of the company and the level of disclosure for the Transparency dimension. Larger companies on average have a higher degree of corporate-level social disclosure. An analysis of Spearman' rho also supported the indication that the firm's size positively influences their social disclosure.

Regarding H2, the variable PROX was not deemed significant in the regression model. Furthermore, a Kruskal-Wallis Test was conducted to evaluate if the three populations developed in the sample have significant difference between them. This hypothesis was rejected and the study found no evidence that the position in the supply chain of the company impacted significantly the extent of corporate-level social disclosure. This may be not so surprising since the hypothesis that the position in the supply chain could proxy the company's visibility to stakeholder pressure was not a common variable proposed in the literature. Another possible interpretation is that firms in the downstream of the supply chain are increasingly extending their supply chain management to include also the social and environmental dimension. A majority of the companies reviewed in the study (85%) disclosed that their supplier code of conducts and/or audit systems consider social and environmental criteria. Furthermore, 32% disclose a summary of the compliance level of their first-tier suppliers, which for some of the companies down in the supply chain included other companies assessed in this study. This interpretation finds support in Meixell and Luoma (2015) where stakeholder pressure is pushing companies upstream in the supply chain to implement sustainability in the supply chain.

Regarding H3, the study tested the cultural dimensions of Hofstede *et al.* (2010) and the framework proposed by Gray *et al.* (1995). The independent variables did not provide a significant association and therefore H3 hypothesis that the cultural dimensions influenced the extent of corporate social disclosure was not accepted. In conclusion, the model presented in this study could not support the findings of Van der Laan Smith *et al.* (2005) an Oriji (2010).

5.1. Limitations and future research

The comprehensiveness of this study was limited by a number of factors. The use of the only dimension of the scorecard didn't enable the study to have the complete picture of the corporate social responsibility practices and extent of disclosures for all the social and environmental dimensions. The *Behind the Brands* scorecard assesses a long list of contemporary issues that impact companies' actions today and will impact further in the future. The study used the transparency dimension to measure the corporate-level social disclosure however crucial dimensions, such as employees' rights, environmental impacts, promotion of equality and diversity, where not measured. These matters have been gaining more and more attention in the research in the area and increasingly companies have been influenced into engage and disclose more, something the study was not able to evaluate. Further research should use the completed scorecard and additionally could investigate the interactions between each dimensions in the companies' disclosure practices. Distinction between mandatory and voluntary information is a relevant topic when measuring the level of disclosure (Gray *et al.*, 1995). The scorecard and subsequently this study makes no distinction between what disclosed information was mandatory and what information was voluntary.

The study used only a couple of variables to investigate the determinants of corporate-level social disclosure. Not considered were a couple of established internal determinants in the literature, such as, firm's profitability, financial leverage and ownership structure. Also relevant external determinants to the firm and used in other studies were not considered, like industry profile (adding the companies from the beverages sector enables an opportunity to test the industry hypothesis) and media exposure. Future research using the *Behind the Brands* scorecard can verify the consistency of the results.

The study sought to propose a unique variable to account for the influence in the corporate social disclosure the different position in the supply chain can produce. The results of the model and Kruskal-Wallis test did not fulfil the study expectations. Additional research is required to investigate if stakeholder pressures, particularly of consumers and buyers, for corporate social responsibility and sustainability increase or diminish in difference levels of the supply chain. Maloni and Brown (2006) found that limited research has been

done to investigate the power and influence stakeholders exert in difference echelons of the supply chain.

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Appendix

Table 12 – Scorecard / Transparency dimension

Code		Weight
T1	**Corporate reporting**	**100,00**
T1.1	**GRI-compliance**	**33,33**
T1.1.1	GRI-compliance % of score (A+=100%, A=80%, B+=70%, B=50%, C+=40%, C=30%, GRI-G3 referenced with undeclared application level = 10%, non-GRI=0%) OR when a company has switched to G4 reporting see the breakdown of scoring in cell B114	16,67
T1.1.2	**Corporate Governance disclosure**	**16,67**
T1.1.2.1	Does the company report on governance structure and decision making relating to social, economic and environmental impacts in the supply chain (based on GRI G4-34)	4,17
T1.1.2.2	Does the company provide disclosure of executive-level responsibility relating to social, economic and environmental impacts in the supply chain (based on GRI G4-36)	4,17
T1.1.2.3	Does the company provide disclosure of the process of consultation between stakeholders and the highest governance body for supply chain management (based on GRI G4-37)	4,17
T1.1.2.4	Does the company report on the ratio of compensation of highest paid individuals vs. median total annual compensation for all employees (based on G4-54)	4,17
T1.2	**Lobbying reporting**	**33,33**
T1.2.1	Has the company joined the EU Transparency Register?	8,33
T1.2.2	If the company is headquartered in Europe, does it publically disclose on its website actual or a range of the contributions made to European trade associations and political entities for public policy influencing or engagement?	8,33
T1.2.3	If the company is headquartered in the US, does it publically disclose on its website actual or a range of the contributions made to US trade associations and political entities for public policy influencing or engagement?	8,33
T1.2.4	If the company is active in the US, does it disclose on its website a list of its membership of at least two key US trade associations, federations or confederations through which it engages in dialogue with governments and regulators?	8,33
T1.2.5	Does the company disclose on its website a list of its membership of at least two key global trade associations, federations or confederations through which it engages in dialogue with governments and regulators?	8,33
T1.3	**Taxation reporting**	**33,33**
T1.3.1	Does the company publically recognise that tax plays a key role in the area of advancing economic development?	6,67
T1.3.2	Does the company disclose its position on tax havens or "secrecy jurisdictions" and how it deals with transfer pricing according to the OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations?	6,67
T1.3.3	Does the company disclose how its payment mechanisms ensure that its direct suppliers pay the legally required taxes in their operation jurisdictions?	6,67
T1.3.4	**Disclosure at Group Level**	**6,67**
T1.3.4.1	Does the company disclose the following information: a) Annual turnover; b) Number of employees on a full time equivalent basis; c) Profit or loss before tax; and d) Tax on profit or loss?	3,33
T1.3.4.2	Does the company disclose public subsidies received	3,33
T1.3.5	**Disclosure relating to subsidiaries**	**6,67**
T1.3.5.1	Does the company disclose a list with the names and country location of all its subsidiaries?	2,22
T1.3.5.2	Does the company disclose the information in T1.3.4.1 (a to d) on a country-level for all countries where it operates?	2,22
T1.3.5.3	Does the company disclose the information in T1.3.4.2 (public subsidies received) on a country-level for all countries where it operates and receives subsidies?	2,22
T2	**Disclosure of total volumes**	**100,00**
T2.1	**Does the company disclose total volumes sourced for the following 4 commodities: palm oil, sugar cane, soy?** *This can also be presented as percentage of global supply.*	**33,33**

T2.1.1	Palm oil	8,33
T2.1.2	Sugar cane	8,33
T2.1.3	**Soy - directly and indirectly sourced** *Indirectly sourced soy refers to soy contained in animal feed used in the production of dairy, meat, eggs, or other animal proteins sourced by the company*	**8,33**
T2.1.3.1	Disclosure of either direct and / or indirect soy volumes	4,17
T2.1.3.2	Disclosure of both direct and indirect soy volumes	4,17
T2.1.4	Cocoa	8,33
T2.2	**Does the company disclose total volumes sourced for up to 5 of the following 9 commodities: dairy, tropical fruits (bananas, mangoes, oranges, mangoes, pineapples), wheat, rice, maize, potatoes, tomatoes, coffee and tea (where company sources the commodity)? This can also be presented as percentage of global supply.**	**33,33**
T2.2.1	Dairy	6,67
T2.2.2	Tropical fruits (bananas, mangoes, oranges, pineapples) or other fruits	6,67
T2.2.3	Wheat	6,67
T2.2.4	Maize	6,67
T2.2.5	Rice	6,67
T2.2.6	Potatoes	6,67
T2.2.7	Tomatoes (or other vegetables)	6,67
T2.2.8	Coffee	6,67
T2.2.9	Tea	6,67
T2.3	**Does the company disclose the sourcing volumes of sustainable production for palm oil, soy, sugarcane, cocoa, coffee, tea, rice, fruits, and potatoes where applicable? Reference can be made in volumes (MT) or in percentages of total volumes. The 5 best scoring commodities are considered**	**33,33**
T2.3.1	Palm oil	6,67
T2.3.2	Sugar cane	6,67
T2.3.3	Soy	6,67
T2.3.4	Cocoa	6,67
T2.3.5	Coffee	6,67
T2.3.6	Tea	6,67
T2.3.7	Fruits (bananas, pineapples, oranges and mangoes) or other fruits	6,67
T2.3.8	Rice	6,67
T2.3.9	Potatoes	6,67
T3	**Disclosure of buying agents and sourcing countries**	**100,00**
T3.1	**Disclosure of supplier names** *Does the company disclose the names of at least one top supplier for palm oil, soy, sugarcane, cocoa and 2 other important commodities for their sourcing?*	**50,00**
T3.1.1	Does the company disclose the names of one palm oil supplier?	4,55
T3.1.2	Does the company disclose the names of at least two other palm oil suppliers?	4,55
T3.1.3	Does the company disclose the names of one soy supplier?	4,55
T3.1.4	Does the company disclose the names of at least two other soy suppliers?	4,55
T3.1.5	Does the company disclose the names of at least one top sugar cane supplier?	4,55
T3.1.6	Does the company disclose the names of at least two other sugar cane suppliers?	4,55
T3.1.7	Does the company disclose the names of at least one top cocoa supplier?	4,55
T3.1.8	Does the company disclose the names of at least two other cocoa suppliers?	4,55
T3.1.9	Does the company disclose the name of at least one of its suppliers for first 'other important commodity'?	4,55
T3.1.10	Does the company disclose the name of at least one of its suppliers for second 'other important commodity'?	4,55
T3.1.11	Does the company disclose the names of at least two other suppliers for the same commodity or other commodities?	4,55
T3.2	**Disclosure of countries sourced from**	**50,00**
	Does the company disclose source of origin (at least two countries if applicable from Non-OEDC countries, but including Mexico and Chile) for sourced commodities?	
T3.2.1	**Does the company disclose source of origin for the following 4 commodities (palm oil, sugar, soy and cocoa) for at least 2 countries?**	**25,00**
	Palm oil	6,25
	Sugar	6,25
	Soy	6,25
	Cocoa	6,25
T3.2.2	**Does the company disclose source of origin for up to 5 of the following 9 commodities (where company sources the commodity) for at least 2 countries?**	**25,00**
	Tropical fruits (bananas, pineapples, oranges, mangoes), or other fruits	5,00
	Rice	5,00

	Maize	5,00
	Wheat	5,00
	Potatoes	5,00
	Tomatoes (or other vegetables)	5,00
	Dairy	5,00
	Coffee	5,00
	Tea	5,00
T4	**Is the company transparent about its system of audits**	**100,00**
T4.1	Does the company consider labour standards, health and safety, the environment and business integrity within its supplier audit protocol or does it refer to SEDEX or any other credible supplier audit information initiative or system?	16,67
T4.2	Does the company disclose how it deals with suppliers audit recommendations?	16,67
T4.3	Does the company track and disclose a full breakdown of first tier suppliers compliant with its supplier code or sourcing policy (e.g. as percentage of total first tier suppliers)?	16,67
T4.4	Does the company disclose a summary of the compliance level of its audited first tier suppliers against audit criteria (e.g. expressed as percentages or proportions per audited criterion)? This should include but not be limited to labour standards, health and safety, the environment and business integrity.	16,67
T4.5	Does the company disclose a summary of the compliance level of its audited first tier suppliers against audit criteria (e.g. expressed as percentages or proportions per audited criterion) which specifically refers to compliance with land, water, farmers and / or gender issues?	16,67
T4.6	Does the company track and disclose a full breakdown of second and third tier suppliers compliant with the company's supplier code or sourcing policy (e.g. as percentage of total second and third tier suppliers)?	16,67

Table 13 - Coefficient Correlations[a]

		AGE	PROX	SIZE	MAS	UA	PDI	IDV
Correlations	**AGE**	1,0000	-0,0890	-0,1220	0,0640	-0,4010	0,0030	-0,5570
	PROX	-0,0890	1,0000	0,1520	-0,0430	-0,1770	-0,1820	-0,0380
	SIZE	-0,1220	0,1520	1,0000	0,1030	-0,1020	-0,0910	-0,0680
	MAS	0,0640	-0,0430	0,1030	1,0000	-0,0950	0,1450	-0,1400
	UA	-0,4010	-0,1770	-0,1020	-0,0950	1,0000	0,0730	0,2620
	PDI	0,0030	-0,1820	-0,0910	0,1450	0,0730	1,0000	0,6860
	IDV	-0,5570	-0,0380	-0,0680	-0,1400	0,2620	0,6860	1,0000
Covariance	**AGE**	5,48E-07	-2,12E-06	-5,39E-06	9,83E-08	-3,37E-07	4,92E-09	-6,80E-07
	PROX	-2,12E-06	1,00E-03	0,00E+00	-2,87E-06	-6,45E-06	-1,51E-05	-1,99E-06
	SIZE	-5,39E-06	0,00E+00	4,00E-03	1,29E-05	-6,94E-06	-1,40E-05	-6,76E-06
	MAS	9,83E-08	-2,87E-06	1,29E-05	4,37E-06	-2,26E-07	7,81E-07	-4,83E-07
	UA	-3,37E-07	-6,45E-06	-6,94E-06	-2,26E-07	1,29E-06	2,13E-07	4,91E-07
	PDI	4,92E-09	-1,51E-05	-1,40E-05	7,81E-07	2,13E-07	6,63E-06	2,91E-06
	IDV	-6,80E-07	-1,99E-06	-6,76E-06	-4,83E-07	4,91E-07	2,91E-06	2,72E-06

a Dependent Variable: CSD

Table 14 - Collinearity Diagnostics[a]

Dimension	Eigenvalue	Condition Index	Variance Proportions							
			(Constant)	SIZE	PROX	PDI	IDV	MAS	UA	AGE
1	7,105	1,000	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2	0,439	4,021	0,00	0,00	0,03	0,01	0,02	0,00	0,00	0,06
3	0,164	6,573	0,00	0,13	0,57	0,01	0,00	0,00	0,05	0,01
4	0,134	7,289	0,00	0,00	0,16	0,00	0,03	0,01	0,65	0,01
5	0,076	9,643	0,00	0,65	0,17	0,01	0,02	0,08	0,06	0,04
6	0,053	11,620	0,00	0,14	0,06	0,10	0,08	0,02	0,16	0,73
7	0,023	17,580	0,01	0,05	0,01	0,11	0,44	0,66	0,06	0,13
8	0,005	37,385	0,99	0,02	0,00	0,77	0,41	0,23	0,02	0,01

a. Dependent variable: CSD

Table 15 – Sample - Companies from the food processing industry, ranked by Forbes

Rank	Company	Country
34	Nestle	Switzerland
213	Mondelez International	United States
252	Danone	France
291	Archer Daniels Midland	United States
351	Tyson Foods	United States
388	Wilmar International	Singapore
414	General Mills	United States
555	Associated British Foods	United Kingdom
638	Bunge	United States
674	WH Group	Hong Kong
675	Kellogg	United States
876	JM Smucker	United States
889	Hormel Foods	United States
895	JBS	Brazil
925	Inner Mongolia Yili	China
938	ConAgra Foods	United States
956	Hershey	United States
1036	Uni-President	Taiwan
1079	Campbell Soup	United States
1092	Grupo Bimbo	Mexico
1120	Kerry Group	Ireland
1149	Charoen Pokphand Foods	Thailand
1315	Ajinomoto	Japan
1325	BRF	Brazil
1414	Olam International	Singapore
1456	McCormick	United States
1480	Ingredion	United States
1540	Lindt & Sprungli	Switzerland
1601	CJ Cheiljedang	South Korea
1661	Want Want China	China
1769	China Mengniu Dairy	Hong Kong
1823	Golden Agri-Resources	Singapore
1888	Vietnam Dairy Products	Vietnam
1988	Barry Callebaut	Switzerland